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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/007,742 | 11/08/2001 | Shinji Inokuchi | 214338 | 4941 |

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EXAMINER

EGAN, BRIAN P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1772 | |

DATE MAILED: 03/31/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/007,742 | INOKUCHI ET AL. <i>g</i> |
| | Examiner | Art Unit |
| | Brian P. Egan | 1772 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6 is/are rejected.
- 7) Claim(s) 3-6 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) *✓*
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3-6 are objected to. As worded, the claims are defining a distinct embodiment from the embodiment of claims 1-2, i.e., the Applicant is claiming a pressure sensitive adhesive sheet in contact with the release liner claimed in Claims 1-2. Therefore, Claim 3 should be worded in independent form and incorporate the claimed limitations of Claim 1 into the body of the claim instead of claiming “the sheet material of claim 1.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his invention. The limitation, “the resin material shows an amount of an eluted component at not more than 30°C of 3 wt% - 30 wt% of the entire resin material, as measured by a Temperature Rising Elution Fractionation method,” is directed at a method of measuring the article. The method of measuring the article is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. The Examiner suggests replacing the aforementioned limitation with explicit structural limitations to facilitate clarity. Proper clarification and/or correction are required.

3. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his

invention. The phrase “to be” is indefinite. The phrase fails to render a positive limitation upon the claimed invention. The Examiner suggests deleting “to be” to facilitate clarity. Proper clarification and/or correction are required.

4. Claims 1, 3, and 5 are further rejected under 35 U.S.C. 112, second paragraph, for the term “main component.” It is unclear how much linear ethylene resin must be present in a compound to be a “main component” in accordance with the Applicant’s claimed limitation. Proper clarification and/or correction are required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Applicant’s admitted prior art relative to the use of Japan Polyolefins Co. J-REX LL-type resins (see *Polymer Processing Technology*, reprinted from

http://www.jpo.co.jp/en/technology/polymer_processing4.html).

The Applicants on pages 12-13 of the specification demonstrate the use of a linear ethylene resin (specifically ethylene-1-hexene copolymer made by Japan Polyolefins Co., LTD. under the product name J-REX LL) in forming the claimed end product. It was notoriously well known in the art at the time Applicant’s invention was made to use J-REX LL-type resins to produce release paper as evidenced by *Polymer Processing Technology* (see p. 1). Thus, the

Applicant's claimed invention is anticipated by Japan Polyolefins Co.'s disclosure in *Polymer Processing Technology*. Although *Polymer Processing Technology* does not explicitly state that the resin exhibits a specific elution value at 30°C, the limitation is inherently met.

7. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated over Yamamoto et al. (#5,741,861).

Yamato et al. teach a laminate sheet comprising a copolymer of linear ethylene resin as a main component and an alpha olefin having 3 to 12 carbon atoms (see Abstract; Col. 2, lines 32-60). Yamato et al. further teach an eluted component at not more than 30°C of 3 wt.% - 30 wt% of the entire resin material, as measured by a TREF method (Col. 4, lines 24-37). Note that the TREF-related method limitation is given no patentable weight as detailed above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art relative to the use of Japan Polyolefins Co. J-REX LL-type resins (see *Polymer Processing Technology*, reprinted from http://www.jpo.co.jp/en/technology/polymer_processing4.html) in view of Tokunaga et al. (#6,218,006).

As detailed above, *Polymer Processing Technology* teaches the use of Japan Polyolefins Co. resin for release paper. *Polymer Processing Technology* fails to explicitly teach the use of a polyester adhesive comprising aliphatic polycarbonate diol contacting the release paper.

Tokunaga et al., however, teach the use of an adhesive layer on a silicone free polyethylene release paper (Col. 11, line 65 to Col. 12, line 8) wherein the adhesive layer comprises a polyester adhesive with aliphatic polycarbonate diol as an essential polyol component (see Abstract; Col. 5, lines 12-27). Tokunaga et al. teach the use of the aforementioned adhesive composition for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance (Col. 7, lines 38-47). Tokunaga et al. teach the use of a silicone free polyethylene release sheet for the purpose of providing a release sheet that does not adversely affect adhesives that are ultimately used for electronic components while also providing a material that is excellent in recyclability (Col. 12, lines 25-36). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have provided a silicone-free release sheet with a polyester adhesive with aliphatic polycarbonate diol for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive not being adversely affected by the silicone-free release liner – as taught by Tokunaga et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified *Polymer Processing Technology* to include a

polyester adhesive in contacting relationship to the silicone free release paper as taught by Tokunaga et al. in order to provide an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive ultimately not being adversely affected by the silicone-free release liner.

10. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. ('861) in view of Tokunaga et al. ('006).

Yamamoto et al. teach a laminate sheet as detailed above. Yamamoto et al. fail to teach a combination of an adhesive layer with the laminate sheet.

Tokunaga et al., however, teach the use of an adhesive layer on a silicone free polyethylene laminate sheet (Col. 11, line 65 to Col. 12, line 8) wherein the adhesive layer comprises a polyester adhesive with aliphatic polycarbonate diol as an essential polyol component (see Abstract; Col. 5, lines 12-27). Tokunaga et al. teach the use of the aforementioned adhesive composition for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance (Col. 7, lines 38-47). Tokunaga et al. teach the use of a silicone free polyethylene laminate for the purpose of providing a release sheet that does not adversely affect adhesives that are ultimately used for electronic components while also providing a material that is excellent in recyclability (Col. 12, lines 25-36). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have provided a silicone-free release sheet with a polyester adhesive with aliphatic polycarbonate diol for the purpose of

providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive not being adversely affected by the silicone-free release liner – as taught by Tokunaga et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified Yamamoto et al. to include a polyester adhesive in contacting relationship to the silicone free laminate as taught by Tokunaga et al. in order to provide an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive ultimately not being adversely affected by the silicone-free release liner.

11. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adamko et al. (#5,948,517) in view of *Analysis of Microstructure of Ethylene-1-Hexene Copolymer* (hereinafter *Analysis of Microstructure*).

Adamko et al. teach a silicone free release film for an adhesive sheet wherein the silicone free release film is a copolymer of a linear ethylene resin and an alpha olefin comprising between 3 and 12 carbon atoms (see Abstract; Col. 2, lines 39-51; Col. 3, lines 4-11).

Adamko et al. fail to explicitly teach that the material shows a specific amount of an eluted component at not more than 30°C as measured by a TREF method. It was notoriously well known in the art at the time Applicant's invention was made, however, that a TREF method merely analyzes the chemical composition distribution of the ethylene/alpha olefin copolymer as evidenced by *Analysis of Microstructure* (p.291). Given that Adamko et al. explicitly teach that

the chemical composition of the copolymer may be modified (Col. 3, lines 59-65), it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the chemical composition of the copolymer resin of Adamko et al., in turn modifying the eluted component value of a TREF process such that it falls within the Applicant's claimed range, depending on the desired end product. Furthermore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the resin composition of Adamko et al., in turn modifying the eluted component value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Note, however, that as presently claimed, the eluted value limitation is given no patentable weight since it is directed at a method limitation as discussed above.

12. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adamko et al. ('517) in view of *Analysis of Microstructure of Ethylene-1-Hexene Copolymer* (hereinafter *Analysis of Microstructure*), and further in view of Tokunaga et al. ('006).

Adamko et al. and *Analysis of Microstructure* teach a silicone-free release film with an adhesive layer as detailed above. The aforementioned prior art fails, however, to explicitly teach the use of a polyester adhesive comprising aliphatic polycarbonate diol.

Tokunaga et al., however, teach the use of an adhesive layer on a silicone free polyethylene laminate sheet (Col. 11, line 65 to Col. 12, line 8) wherein the adhesive layer comprises a polyester adhesive with aliphatic polycarbonate diol as an essential polyol component (see Abstract; Col. 5, lines 12-27). Tokunaga et al. teach the use of the aforementioned adhesive composition for the purpose of providing an adhesive composition that

exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance (Col. 7, lines 38-47). Tokunaga et al. teach the use of a silicone free polyethylene laminate for the purpose of providing a release sheet that does not adversely affect adhesives that are ultimately used for electronic components while also providing a material that is excellent in recyclability (Col. 12, lines 25-36). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have provided a silicone-free release sheet with a polyester adhesive with aliphatic polycarbonate diol for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive not being adversely affected by the silicone-free release liner – as taught by Tokunaga et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art to include a polyester adhesive in contacting relationship to the silicone free laminate as taught by Tokunaga et al. in order to provide an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive ultimately not being adversely affected by the silicone-free release liner.

Conclusion

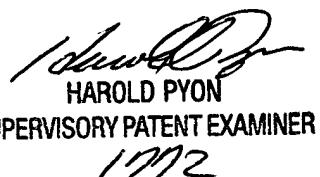
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BPE
March 17, 2003




HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/24/03